## SEQUENCE LISTING

| <110> The Regents of the University of California Wise, Arlene            |     |
|---|-----|
| <120> Detection Of Phenols Using Engineered Bacteria                      |     |
| <130> S-91,714  |     |
| <140> 09/520,538<br><141> 2000-03-08                                      |     |
| <160> 17  |     |
| <170> PatentIn version 3.0  |     |
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| cagtetteag egatggeeag etttegeegg gaaatggtea ataccetggg categaacge         | 180 |
| gccaagggct tgttcctgcg ccatggttac cagtccggcc tgaaggatgc cgaactggcc         | 240 |
| aggaagctga gaccgaatgc cagcgaagtc ggcatgttcc tcgctgggcc gcagatgcat         | 300 |
| teactcaagg gtctggtcaa ggtccgcccc accgagctcg atatcgacaa ggaatacggg         | 360 |
|   | 420 |
| cgcttctatg ccgagatgga gtggatcgac tggttcgagg tggaaatctg ccagaccgac         |     |
| ctggggcaga tgcaagaccc ggtgtgctgg actgtgctcg gctacgcctg cgcctattcc         | 480 |
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| cagttttcgg cgatggccag ctttcgccgg gaaatggtca ataccctggg catcgaacgc         | 180 |
| gccaagggct tgttcctgcg ccatggttac cagtccggcc tgaaggatgc cgaactggcc         | 240 |
| aggaagetga gacegaatge cagegaagte ggeatgttee tegetgggee geagatgeat         | 300 |

| tcactcaagg                                     | gtctggtcaa   | ggtccgcccc | accgagctcg   | atatcgacaa | ggaatacggg | 360 |
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| cgcttctatg                                     | ccgagatgga   | gtggatcgac | tggttcgagg   | tggaaatctg | ccagaccgac | 420 |
| ctggggcaga                                     | tgcaagaccc   | ggtgtgctgg | actgtgctcg   | gctacgcctg | cgcctattcc | 480 |
| tcggcgttca                                     | tgggccggga   | aatcatcttc | aaggaagtca   | gctgccgcgg | ctgcggcggc | 540 |
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| atccacttcc                                     | agagcatgga   | aggcaagatc | tggcttggcg   | aacaacgcat | gctgttgctg | 120 |
| cagttttcag                                     | cgatggccag   | ctttcgccgg | gaaatggtca   | ataccctggg | catcgaacgc | 180 |
| gccaagggct                                     | tgttcctgcg   | ccatggttac | cagtccggcc   | tgaaggatgc | cgaactggcc | 240 |
| aggaagctga                                     | gaccgaatgc   | cagcgaagtc | ggcatgttcc   | tcgctgggcc | gcagatgcat | 300 |
| tcactcaagg                                     | gtctggtcaa   | ggtccgcccc | accgggctcg   | atatcgacaa | ggaatacggg | 360 |
| cgcttctatg                                     | ccgagatgga   | gtggatcgac | tggttcgagg   | tggaaatctg | ccagaccgac | 420 |
| ctggggcaga                                     | tgcaagaccc   | ggtgtgctgg | actgtgctcg   | gctacgcctg | cgcctattcc | 480 |
| teggegttea                                     | tgggccggga   | aatcatcttc | aaggaagtca   | gctgccgcgg | ctgcggcggc | 540 |
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| cagttttcag                                     | g cgatggccag | ctttcgccgg | gaaatggtca   | ataccctggg | catcgaacgc | 180 |
| gccaagggct                                     | tgttcctgcg   | ccatggttac | cagtccggcc   | tgaaggatgc | cgaactggcc | 240 |
| aggaagctga                                     | gaccgaatgc   | cagegaagte | ggcatgttcc   | tcgctgggcc | gcagatgcat | 300 |
| tcactcaag                                      | g gtctggtcaa | ggtccgccc  | accgageteg   | atatcgacat | ggaatacggg | 360 |
| cgcttctate                                     | g ccgagatgga | gtggatcgac | tggttcgagg   | tggaaatctg | ccagaccgac | 420 |
| ctggggcaga                                     | a tgcaagaccc | ggtgtgctgg | actgtgctcg   | gctacgcctg | cgcctattcc | 480 |
| teggegtte                                      | a tgggccggga | aatcatctto | : aaggaagtca | gctgccgcgg | ctgcggcggc | 540 |

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                                                                     180
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accaagggct tgttcctgcg ccatggttac cagtccggcc tgaaggatgc cgaactggcc
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tcactcaagg gtctggtcaa ggtccgcccc accgagctcg atatcgacaa ggaatacggg
                                                                     360
                                                                     420
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ctggggcaga tgcaaggccc ggtgtgctgg actgtgctcg gctacgcctg cgcctattcc
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cagttttcag cgatggccag cttccgccgg gaaatggtca ataccctggg catcgaacgc
gccaagggct tgttcctgcg ccatggttac cagtccggcc tgaaggatgc cgaactggcc
aggaagetga gacegaatge eagegaagte ggeatgttee tegetgggee geagatgeat
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ctggggcaga tgcaagacce ggtgtgctgg actgtgctcg gctacgcctg cgcctattcc
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480

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180

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300

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420

480

540

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| atccacttcc | agagcatgga | aggcaagatc | tggcttggcg | aacagcgcat | gctgttgctg | 120 |
| cagttttcag | cgatggccag | cttccgccgg | gaaatggtca | ataccctggg | catcgaacgc | 180 |
| gccaagggct | tgttcctgcg | ccatggttac | cagtccggcc | tgaaggatgc | cgaactggcc | 240 |
| aggaagctga | gaccgaatgc | cagcgaagtc | ggcatgttcc | tcgctgggcc | gcagatgcat | 300 |
| tcactcaagg | gtctggtcaa | ggtccgcccc | accgagctcg | atatcgacaa | ggaatacggg | 360 |
| cgcttctatg | ccgagatgga | gtggatcgac | tggttcgagg | tggaaatctg | ccagaccgac | 420 |
| ccggggcaga | tgcaagaccc | ggtgtgctgg | actgtgctcg | gctacgcctg | cgcctattcc | 480 |
| tcggcgttca | tgggccggga | aatcatcttc | aaggaagtca | gctgccgcgg | ctgcggcggc | 540 |
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Gly Glu Gln Arg Met Leu Leu Gln Ser Ser Ala Met Ala Ser Phe

Arg Arg Glu Met Val Asn Thr Leu Gly Ile Glu Arg Ala Lys Gly Leu 50 55 60

Phe Leu Arg His Gly Tyr Gln Ser Gly Leu Lys Asp Ala Glu Leu Ala 65 70 75 80

Arg Lys Leu Arg Pro Asn Ala Ser Glu Val Gly Met Phe Leu Ala Gly 85 90 95

Pro Gln Met His Ser Leu Lys Gly Leu Val Lys Val Arg Pro Thr Glu 100 105 110

Leu Asp Ile Asp Lys Glu Tyr Gly Arg Phe Tyr Ala Glu Met Glu Trp
115 120 125

Ile Asp Ser Phe Glu Val Glu Ile Cys Gln Thr Asp Leu Gly Gln Met 130 135 140

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Gly Glu Gln Arg Met Leu Leu Leu Gln Phe Ser Ala Met Ala Ser Phe 35 40 45

Arg Arg Glu Met Val Asn Thr Leu Gly Ile Glu Arg Ala Lys Gly Leu 50 55 60

Phe Leu Arg His Gly Tyr Gln Ser Gly Leu Lys Asp Ala Glu Leu Ala 65 70 75 80

Arg Lys Leu Arg Pro Asn Ala Ser Glu Val Gly Met Phe Leu Ala Gly 85 90 95

Pro Gln Met His Ser Leu Lys Gly Leu Val Lys Val Arg Pro Thr Glu 100 105 110

Leu Asp Ile Asp Met Glu Tyr Gly Arg Phe Tyr Ala Glu Met Glu Trp 115 120 125

Ile Asp Ser Phe Glu Val Glu Ile Cys Gln Thr Asp Leu Gly Gln Met 130 135 140

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Gly Glu Gln Arg Met Leu Leu Gln Phe Ser Ala Met Ala Ser Phe 35 40 45

Arg Arg Glu Met Val Asn Thr Leu Gly Val Glu Arg Thr Lys Gly Leu 50 55 60

Phe Leu Arg His Gly Tyr Gln Ser Gly Leu Lys Asp Ala Glu Leu Ala 65 70 75 80

Arg Lys Leu Arg Pro Asn Ala Ser Glu Val Gly Met Phe Leu Ala Gly 85 90 95

Pro Gln Met His Ser Leu Lys Gly Leu Val Lys Val Arg Pro Thr Glu 100 105 110

Leu Asp Ile Asp Lys Glu Tyr Gly Arg Phe Tyr Ala Glu Met Glu Trp 115 120 125

Gln Gly Pro Val Cys Trp Thr Leu Leu Gly Tyr Ala Cys Ala Tyr Ser 145 150 155 160

Ser Ala Phe Met Gly Arg Glu Ile Ile Phe Lys Glu Val Ser Cys Arg 165 170 175

Gly Cys Gly Gly 180

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Gly Glu Gln Arg Met Leu Leu Gln Phe Ser Ala Met Ala Ser Phe 35 40 45

Arg Arg Glu Met Val Asn Thr Leu Gly Ile Glu Arg Ala Lys Gly Leu 50 55 60

Phe Leu Arg His Gly Tyr Gln Ser Gly Leu Lys Asp Ala Glu Leu Ala 65 70 75 80

Arg Lys Leu Arg Pro Asn Ala Ser Glu Val Gly Met Phe Leu Ala Gly 85 90 95

Pro Gln Met His Ser Leu Lys Gly Leu Val Lys Val Arg Pro Thr Glu 100 105 110

Leu Asp Ile Gly Arg Glu Tyr Gly Arg Phe Tyr Ala Glu Met Glu Trp 115 120 125

Ile Asp Ser Pro Glu Val Glu Ile Cys Gln Thr Asp Leu Gly Gln Met 130 135 140

Gln Asp Pro Val Cys Trp Thr Leu Leu Gly Tyr Ala Cys Ala Tyr Ser 145 150 155 160 Ser Ala Leu Met Gly Arg Glu Ile Ile His Lys Glu Val Ser Cys Arg 170 Gly Cys Gly Gly 180 <210> 13 <211> 180 <212> PRT <213> Pseudomonas sp. CF600 <400> 13 Met Pro Ile Lys Tyr Lys Pro Glu Ile Gln His Ser Asp Phe Lys Asp Leu Thr Asn Leu Ile His Pro Gln Ser Met Glu Gly Lys Ile Trp Leu Gly Glu Gln Arg Met Leu Leu Gln Phe Ser Ala Met Ala Ser Phe Arg Arg Glu Met Val Asn Thr Leu Gly Ile Glu Arg Ala Lys Gly Leu Phe Leu Arg His Gly Tyr Gln Ser Gly Leu Lys Asp Ala Glu Leu Ala 75 70 Arg Lys Leu Arg Pro Asn Ala Ser Glu Val Gly Met Phe Leu Ala Gly Pro Gln Met His Ser Leu Lys Gly Leu Val Lys Val Arg Pro Thr Glu 105 Leu Asp Ile Asp Lys Glu Tyr Gly Arg Phe Tyr Ala Glu Met Glu Trp 115 Ile Asp Ser Phe Glu Val Glu Ile Cys Gln Thr Asp Pro Gly Gln Met Gln Asp Pro Val Cys Trp Thr Leu Leu Gly Tyr Ala Cys Ala Tyr Ser 150 155 Ser Ala Phe Met Gly Arg Glu Ile Ile Phe Lys Glu Val Ser Cys Arg 170 Gly Cys Gly Gly 180 <210> 14 <211> 25

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